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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,271	08/22/2006	Shunpei Yamazaki	0756-7804	6014

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EXAMINER	
JAHAN, BILKIS	

ART UNIT	PAPER NUMBER
2814	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/590,271	YAMAZAKI, SHUNPEI	
	Examiner	Art Unit	
	BILKIS JAHAN	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This office action is responsive to the response filed on 8/23/10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yonezawa et al (Yonezawa, US 2003/0032213 A1) in view of Guha et al (Guha, 4,695,859).

Regarding claim 1, Yonezawa discloses a semiconductor device (Figures 2C, 21, 23B, 25C) comprising:

- an antenna 2708 (Fig. 25C, Para. 318), an integrated circuit 421 (Fig. 23B, Para. 289) comprising a thin film transistor 421 (Fig. 23B, Para. 289), a light receiving element 441 configured to receive a signal by optical communication (functional); a light-emitting element 433 (Fig. 23B, Para. 293) configured to transmit a signal by optical communication (functional), and

- the light receiving element 441 has a layer for conducting photoelectric conversion using a non-single crystal thin film (Para. 243),
- wherein the integrated circuit 421 includes a power supply circuit (Fig. 21, element Vi) configured to generate a power supply voltage (Para. 233) by using an alternating voltage generated by the antenna 2708, and
- wherein the antenna 2708, the light-emitting element 433 and the light-receiving element 441 (Fig. 23B, Para. 287) are electrically connected to the integrated circuit 421 on the same substrate 2702 (Fig. 25C, Para. 318)
- Yonezawa does not explicitly disclose the light emitting element 6050 has an electroluminescent layer using a non-single crystal thin film.
- However, Guha discloses the light emitting element 60 (Fig. 6, col. 16. line 54) has an electroluminescent layer (Claim 19) using a non-single crystal thin film (claim 19). Guha teaches the above modification is used to obtain high quality electrical and optical properties of the device (col. 1, lines 30-35). It would have been obvious to one of the ordinary skill of the art at the time of invention to replace Yonezawa's structure with Guha's structure as suggested above to obtain high quality electrical and optical properties of the device (col. 1, lines 30-35).

Claims 2-3, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonezawa et al (Yonezawa, US 2003/0032213 A1).

Regarding claim 2, in addition to claim 1, Yonezawa further discloses the integrated circuit 421, the light-emitting element 433 and the light-receiving element 441 are formed on the same substrate 2702.

Regarding claim 3, in addition to claim 1, Yonezawa further discloses the antenna 2708, the integrated circuit 421, the light-emitting dement 433 and the light-receiving element 441 are formed on the same substrate 2702.

Regarding claims 10, 11, Yonezawa discloses all limitations in claims 1, 2 above.

Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Yonezawa et al (Yonezawa, US 2003/0032213 A1), Guha et al (Guha, 4,695,859) and further in view of Kumatani (US 2002/0149119 A1).

Regarding claim 5 Yonezawa in view of Guha discloses limitations in claim 1 above and

- Yonezawa in view of Guha does not explicitly disclose the integrated circuit, the light emitting element and the light receiving element are attached to a substrate with an adhesive agent.
- However, Kumatani discloses the integrated circuit 5 (Fig. 1, Para. 34), the light emitting element 6 (Fig. 1, Para. 34) and the light receiving element 4

(Fig. 1, Para. 34) are attached to a substrate 8 (Fig. 1, Para. 34) with an adhesive agent (Para. 34). Kumatani teaches the above modification is used to obtain miniaturizing of the semiconductor device (Para. 26). It would have been obvious to one of the ordinary skill of the art at the time of invention to replace Yonezawa in view of Guha's structure with Kumatani's structure as suggested above to obtain miniaturizing of the semiconductor device (Para. 26).

Claims 6-7, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonezawa et al (Yonezawa, US 2003/0032213 A1) in view of Kumatani (US 2002/0149119 A1).

Regarding claims 6-7, Yonezawa in view of Kumatani discloses all structural limitations above in claims 1, 2, 5.

Regarding claims 13-14, Yonezawa in view of Kumatani discloses all limitations above in claims 1, 2, 5.

Claims 4, 12, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonezawa et al (Yonezawa, US 2003/0032213 A1) in view of Kimura (US 2003/0052324) and Nishi et al (US 6,590,633 B1).

Regarding claims 4, 12, Yonezawa discloses some limitations in claims 1, 2 above and Yonezawa in view of Guha does not explicitly disclose the integrated circuit comprising a connection terminal and a rectification circuit configured to rectify an alternating voltage generated by an antenna, a power supply circuit configured to generate a power supply voltage by using a voltage outputted from the rectification circuit.

- However, Kimura discloses the integrated circuit comprising a connection terminal and, a rectification circuit (Kimura, Fig. 14B, element "AMPLIFICATION ELEMENT") configured to rectify an alternating voltage generated by an antenna 2708 (Fig. 13G, Para. 190), a power supply circuit (Kimura, Fig. 14B, element VBi, Para. 22) configured to generate a power supply voltage (Kimura, Fig. 14B) by using a voltage outputted from the rectification circuit (Kimura, Fig. 14B). Kimura teaches the above modification is used to control the photo electric conversion elements (Para. 4) and photo electric conversion elements can attain sufficient signal amplitude and reduce cost of the device (Para. 29). It would have been obvious to one of the ordinary skill of the art at the time of invention to add Yonezawa's in view of Guha's structure with Kimura's structure as suggested above to control the photo electric conversion elements (Para. 4) and photo electric conversion

elements can attain sufficient signal amplitude and reduce cost of the device (Para. 29).

- Yonezawa in view of Guha does not explicitly disclose a demodulation circuit and a logic circuit.
- However, Nishi et al disclose a demodulation circuit (col. 12, line 27) and a logic circuit (col. 12, line 20). Nishi teaches a demodulation circuit and logic circuit are used to management and control of the charging state and the management and control of the communication port (col. 12, lines 22-24). It would have been obvious to one of the ordinary skill of the art at the time of invention to add Yonezawa in view of Guha's structure with Nishi's structure including demodulation circuit and logic circuit to manage and control charging state and the communication port (col. 12, lines 22-24).

Regarding claim 15, Yonezawa, Kimura, Nishi in view of Kumatani discloses all limitations above in claims 1, 2, 5.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yonezawa et al (Yonezawa, US 2003/0032213 A1), Kimura (US 2003/0052324) and further in view of Nishi et al (US 6,590,633 B1) and Kumatani (US 2002/0149119 A1).

Regarding claim 8, Yonezawa in view of Kimura, Nishi, Kumatani discloses some structural limitations above in claims 1, 4, 5 and Yonezawa further discloses the

integrated circuit 421, the light emitting element 433 and the light receiving element 441 formed integrally (Fig, 25C, 23B).

Claims 9, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonezawa et al (Yonezawa, US 2003/0032213 A1), Kumatani (US 2002/0149119 A1) and further in view of Nakamura (US 2004/0152392 A1).

Regarding claims 9, 16, Yonezawa in view of Kumatani discloses limitations above but does not disclose the substrate is a plastic substrate.

- However, Nakamura discloses the second substrate is a plastic substrate 315 (Fig. 3A, Para. 127). Nakamura teaches plastic substrate is used to emit light from the light emitting elements (Para. 28, lines 1-2). It would have been obvious to one of the ordinary skill of the art at the time of invention to add Yonezawa in view of Kumatani's structure with Nakamura's structure including plastic substrate to emit light from the light emitting elements (Para. 28, lines 1-2).

Response to Arguments

Applicant's arguments with respect to claims 1, 5 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 8/23/10 have been fully considered but they are not persuasive for claims 2-3, 6-11, 13-16 because:

Applicant's argued that "As stated in MPEP §§ 2142-2144.04, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some reason to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)." However, Examiner respectfully disagrees about this because the Applicant failed to show reasons for combination is not proper because

- The examiner submits that the secondary references do not change the principle of operation of the primary reference or render the reference

inoperable for its intended purpose. See MPEP § 2143.01. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983). It is not necessary that the inventions of the references be physically combinable to render obvious the invention under review."; and *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973). Combining the teachings of references does not involve an ability to combine their specific structures. Thus, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Therefore, prior arts must be considered in entirely, including discloses that teach away from the claims, MPEP § 2143.01-02.

Applicant's also argued that "The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. All independent claims 1-8, 10, 12, and 13 have been amended to recite "a light-receiving element configured to receive a signal by optical communication" and "a light-emitting

element configured to transmit a signal by optical communication." Support for this amendment can be found, for example, in lines 1-3 of paragraph [0016] of the Patent Application Publication (US 2007/0176622 A1) of the present application. It is respectfully submitted that the prior art of record, either alone or in combination, fails to disclose or suggest at least these features in the amended independent claims and reconsideration is requested in view thereof." However, Examiner respectfully disagrees about this because the amended limitations "a light-receiving element configured to receive a signal by optical communication" and "a light-emitting element configured to transmit a signal by optical communication" are functional limitations.

- Therefore, when the semiconductor compound recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

Applicant's also argued that "Further, it is respectfully submitted that the prior art fails to disclose or suggest a power supply circuit configured to generate a power supply voltage by using an alternating voltage generated by the antenna as recited in at least claims 1-3 and 10-11. With reference to Yonezawa, the Office Action asserts that "the integrated circuit 421 includes a power supply circuit (Fig. 21, element Vi) configured to

generate a power supply voltage (Para. 233) by using an alternating voltage generated by the antenna 2708." It is respectfully submitted, however, that Yonezawa discloses "One of the source region and drain region of the driving transistor 116 is connected to the power supply line (Vi) and the other is connected to the light emitting element 115. A capacitor 118 is connected to the gate electrode of the driving transistor 116 and to the power supply line (Vi)" in Para. 233 (Fig. 21). However, Yonezawa does not disclose a power supply circuit configured to generate a power supply voltage by using an alternating voltage generated by the antenna 2708. Therefore, since the prior art of record fails to disclose each and every feature of the claims, a prima facie case of obviousness cannot be maintained for at least this further reason." However, Examiner respectfully disagrees about this because Applicant admitted that Yonezawa has power supply line. Also, it is ordinary skill of the art that power supply line has to connect to the power supply circuit in order to get power. Therefore, Yonezawa discloses power supply circuit.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BILKIS JAHAN whose telephone number is (571)270-5022. The examiner can normally be reached on M-F, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571)-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wai-Sing Louie/
Primary Examiner, Art Unit 2814

BJ